

RAW SEQUENCE LISTING

The Biotechnology Systems Branch of the Scientific and Technical
Information Center (STIC) no errors detected.

Application Serial Number: 10/821,689 A
Source: JFLW0
Date Processed by STIC: 10/22/04

ENTERED



IFWO

RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/821,689A

DATE: 10/22/2004

TIME: 11:59:16

Input Set : A:\-31-1.app

Output Set: N:\CRF4\10222004\J821689A.raw

```

3 <110> APPLICANT: Williams, John G. K.
4     LI-COR, Inc.
6 <120> TITLE OF INVENTION: Composition and Method for Nucleic Acid Sequencing
8 <130> FILE REFERENCE: 020031-003110US
10 <140> CURRENT APPLICATION NUMBER: US 10/821,689A
11 <141> CURRENT FILING DATE: 2004-04-08
13 <150> PRIOR APPLICATION NUMBER: US 60/461,522
14 <151> PRIOR FILING DATE: 2003-04-08
16 <150> PRIOR APPLICATION NUMBER: US 60/462,988
17 <151> PRIOR FILING DATE: 2003-04-14
19 <160> NUMBER OF SEQ ID NOS: 23
21 <170> SOFTWARE: PatentIn Ver. 2.1
23 <210> SEQ ID NO: 1
24 <211> LENGTH: 89
25 <212> TYPE: DNA
26 <213> ORGANISM: Artificial Sequence
28 <220> FEATURE:
29 <223> OTHER INFORMATION: Description of Artificial Sequence:synthetic target
30     nucleic acid, single molecule in microtiter plate well
32 <400> SEQUENCE: 1
33 tatgaaaatt ttccggttta aggcgtttcc gttcttcttc gtcataactt aatgttttta 60
34 tttaaaatac cctctgaaaa gaaaggaaa                               89
37 <210> SEQ ID NO: 2
38 <211> LENGTH: 89
39 <212> TYPE: DNA
40 <213> ORGANISM: Artificial Sequence
42 <220> FEATURE:
43 <223> OTHER INFORMATION: Description of Artificial Sequence:synthetic target
44     nucleic acid, single molecule in microtiter plate well
46 <400> SEQUENCE: 2
47 cgacagggtgc tgaaagcgag gctttttggc ctctgtcggt tcctttctct gtttttgtcc 60
48 gtggaatgaa caatggaagt caacaaaaa                               89
51 <210> SEQ ID NO: 3
52 <211> LENGTH: 89
53 <212> TYPE: DNA
54 <213> ORGANISM: Artificial Sequence
56 <220> FEATURE:
57 <223> OTHER INFORMATION: Description of Artificial Sequence:synthetic target
58     nucleic acid, single molecule in microtiter plate well
60 <400> SEQUENCE: 3
61 gcagctggct gacattttcg gtgcgagtat ccgtaccatt cagaactggc aggaacaggg 60
62 aatgcccggt ctgcgaggcg gtggcaagg                               89
65 <210> SEQ ID NO: 4

```

RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/821,689A

DATE: 10/22/2004

TIME: 11:59:16

Input Set : A:\-31-1.app

Output Set: N:\CRF4\10222004\J821689A.raw

```

66 <211> LENGTH: 89
67 <212> TYPE: DNA
68 <213> ORGANISM: Artificial Sequence
70 <220> FEATURE:
71 <223> OTHER INFORMATION: Description of Artificial Sequence:synthetic target
72     nucleic acid, single molecule in microtiter plate well
74 <400> SEQUENCE: 4
75 gtaatgaggt gctttatgac tctgccgcgcg tcataaaatg gtatgccgaa agggatgctg 60
76 aaattgagaa cgaaaagctg cgccgggag                                     89
79 <210> SEQ ID NO: 5
80 <211> LENGTH: 21
81 <212> TYPE: PRT
82 <213> ORGANISM: Artificial Sequence
84 <220> FEATURE:
85 <223> OTHER INFORMATION: Description of Artificial Sequence:synthetic amino
86     acid anchor sequence
88 <220> FEATURE:
89 <221> NAME/KEY: MOD_RES
90 <222> LOCATION: (11)
91 <223> OTHER INFORMATION: Xaa = p-acetyl-L-phenylalanine (pa-Phe)
93 <400> SEQUENCE: 5
W--> 94 Leu Leu Ser Lys Lys Arg Ser Leu Cys Cys Xaa Cys Thr Val Ile Val
95   1               5               10              15
97 Tyr Val Thr Asp Thr
98           20
101 <210> SEQ ID NO: 6
102 <211> LENGTH: 25
103 <212> TYPE: DNA
104 <213> ORGANISM: Artificial Sequence
106 <220> FEATURE:
107 <223> OTHER INFORMATION: Description of Artificial Sequence:first
108     double-stranded oligonucleotide adaptor
110 <220> FEATURE:
111 <221> NAME/KEY: modified_base
112 <222> LOCATION: (1)
113 <223> OTHER INFORMATION: n = biotinylated c
115 <400> SEQUENCE: 6
W--> 116 ngccacatta cacttcctaa cacgt                                     25
119 <210> SEQ ID NO: 7
120 <211> LENGTH: 24
121 <212> TYPE: DNA
122 <213> ORGANISM: Artificial Sequence
124 <220> FEATURE:
125 <223> OTHER INFORMATION: Description of Artificial Sequence:complement of
126     first double-stranded oligonucleotide adaptor
128 <400> SEQUENCE: 7
129 cgtgttagga agtgtaatgt ggcg                                     24
132 <210> SEQ ID NO: 8
133 <211> LENGTH: 25

```

RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/821,689A

DATE: 10/22/2004

TIME: 11:59:16

Input Set : A:\-31-1.app

Output Set: N:\CRF4\10222004\J821689A.raw

```

134 <212> TYPE: DNA
135 <213> ORGANISM: Artificial Sequence
137 <220> FEATURE:
138 <223> OTHER INFORMATION: Description of Artificial Sequence:second
139     double-stranded oligonucleotide adaptor
141 <400> SEQUENCE: 8
142 cagtaggtag tcaaggctag agtct                                25
145 <210> SEQ ID NO: 9
146 <211> LENGTH: 24
147 <212> TYPE: DNA
148 <213> ORGANISM: Artificial Sequence
150 <220> FEATURE:
151 <223> OTHER INFORMATION: Description of Artificial Sequence:complement of
152     second double-stranded oligonucleotide adaptor
154 <400> SEQUENCE: 9
155 gactctagcc ttgactacct actg                                24
158 <210> SEQ ID NO: 10
159 <211> LENGTH: 30
160 <212> TYPE: DNA
161 <213> ORGANISM: Artificial Sequence
163 <220> FEATURE:
164 <223> OTHER INFORMATION: Description of Artificial Sequence:ligated DNA
165     product
167 <220> FEATURE:
168 <221> NAME/KEY: modified_base
169 <222> LOCATION: (1)
170 <223> OTHER INFORMATION: n = biotinylated c
172 <220> FEATURE:
173 <221> NAME/KEY: modified_base
174 <222> LOCATION: (26)..(30)
175 <223> OTHER INFORMATION: n = g, a, c or t
177 <400> SEQUENCE: 10
W--> 178 ngccacatta cacttcctaa cacgtnnnnn                    30
181 <210> SEQ ID NO: 11
182 <211> LENGTH: 33
183 <212> TYPE: DNA
184 <213> ORGANISM: Artificial Sequence
186 <220> FEATURE:
187 <223> OTHER INFORMATION: Description of Artificial Sequence:ligated DNA
188     product
190 <220> FEATURE:
191 <221> NAME/KEY: modified_base
192 <222> LOCATION: (1)..(5)
193 <223> OTHER INFORMATION: n = g, a, c or t
195 <400> SEQUENCE: 11
W--> 196 nnnnnagact ctagccttga ctacctactg aaa                33
199 <210> SEQ ID NO: 12
200 <211> LENGTH: 30
201 <212> TYPE: DNA

```

RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/821,689A

DATE: 10/22/2004

TIME: 11:59:16

Input Set : A:\-31-1.app

Output Set: N:\CRF4\10222004\J821689A.raw

```

202 <213> ORGANISM: Artificial Sequence
204 <220> FEATURE:
205 <223> OTHER INFORMATION: Description of Artificial Sequence:ligated DNA
206     product, unbiotinylated DNA strand eluted at
207     alkaline pH
209 <220> FEATURE:
210 <221> NAME/KEY: modified_base
211 <222> LOCATION: (1)..(5)
212 <223> OTHER INFORMATION: n = g, a, c or t
214 <400> SEQUENCE: 12
W--> 215 nnnnnacgtg ttaggaagtg taatgtggcg 30
218 <210> SEQ ID NO: 13
219 <211> LENGTH: 30
220 <212> TYPE: DNA
221 <213> ORGANISM: Artificial Sequence
223 <220> FEATURE:
224 <223> OTHER INFORMATION: Description of Artificial Sequence:ligated DNA
225     product, unbiotinylated DNA strand eluted at
226     alkaline pH
228 <220> FEATURE:
229 <221> NAME/KEY: modified_base
230 <222> LOCATION: (1)
231 <223> OTHER INFORMATION: n = 5' phosphorylated c
233 <220> FEATURE:
234 <221> NAME/KEY: modified_base
235 <222> LOCATION: (26)..(30)
236 <223> OTHER INFORMATION: n = g, a, c or t
238 <400> SEQUENCE: 13
W--> 239 nagtaggtag tcaaggctag agtctnnnnn 30
242 <210> SEQ ID NO: 14
243 <211> LENGTH: 59
244 <212> TYPE: DNA
245 <213> ORGANISM: Artificial Sequence
247 <220> FEATURE:
248 <223> OTHER INFORMATION: Description of Artificial Sequence:primed circular
249     template strand, eluted strands circularized
251 <220> FEATURE:
252 <221> NAME/KEY: modified_base
253 <222> LOCATION: (1)..(59)
254 <223> OTHER INFORMATION: n = g, a, c or t
256 <400> SEQUENCE: 14
W--> 257 nnnnncgtgt taggaagtgt aatgtggcgc agtaggtag caaggctaga gtctnnnnn 59
260 <210> SEQ ID NO: 15
261 <211> LENGTH: 49
262 <212> TYPE: DNA
263 <213> ORGANISM: Artificial Sequence
265 <220> FEATURE:
266 <223> OTHER INFORMATION: Description of Artificial Sequence:primer oligo
267     complementary to both adaptors

```

RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/821,689A

DATE: 10/22/2004

TIME: 11:59:16

Input Set : A:\-31-1.app

Output Set: N:\CRF4\10222004\J821689A.raw

```

269 <400> SEQUENCE: 15
270 agactctagc cttgactacc tactgcgccca cattacactt cctaacacg      49
273 <210> SEQ ID NO: 16
274 <211> LENGTH: 27
275 <212> TYPE: DNA
276 <213> ORGANISM: Artificial Sequence
278 <220> FEATURE:
279 <223> OTHER INFORMATION: Description of Artificial Sequence:T7 DNA
280     polymerase gene forward amplification primer
281     encoding exonuclease mutations
283 <400> SEQUENCE: 16
284 atgatcggtt ctgccatcgc agctaac      27
287 <210> SEQ ID NO: 17
288 <211> LENGTH: 16
289 <212> TYPE: DNA
290 <213> ORGANISM: Artificial Sequence
292 <220> FEATURE:
293 <223> OTHER INFORMATION: Description of Artificial Sequence:T7 DNA
294     polymerase gene reverse amplification primer
296 <400> SEQUENCE: 17
297 tcagtggcaa atcgcc      16
300 <210> SEQ ID NO: 18
301 <211> LENGTH: 75
302 <212> TYPE: DNA
303 <213> ORGANISM: Artificial Sequence
305 <220> FEATURE:
306 <223> OTHER INFORMATION: Description of Artificial Sequence:synthetic
307     oligonucleotide encoding Strep-Tag II sequence
308     overlapping 5'-end N-terminus of amplified T7
309     polymerase gene with 2 exo- mutations
311 <220> FEATURE:
312 <221> NAME/KEY: CDS
313 <222> LOCATION: (1)..(75)
314 <223> OTHER INFORMATION: Strep-Tag II peptide, spacer and T7 polymerase
315     N-terminus overlap with 2 exo- mutations
317 <400> SEQUENCE: 18
318 atg tcc aac tgg tcc cac ccg cag ttc gaa aaa ggt gga ggt tcc gct      48
319 Met Ser Asn Trp Ser His Pro Gln Phe Glu Lys Gly Gly Gly Ser Ala
320   1           5           10           15
322 atg atc gtt tct gcc atc gca gct aac      75
323 Met Ile Val Ser Ala Ile Ala Ala Asn
324           20           25
327 <210> SEQ ID NO: 19
328 <211> LENGTH: 25
329 <212> TYPE: PRT
330 <213> ORGANISM: Artificial Sequence
332 <220> FEATURE:
333 <223> OTHER INFORMATION: Strep-Tag II peptide, spacer and T7 polymerase
334     N-terminus overlap with 2 exo- mutations

```

RAW SEQUENCE LISTING ERROR SUMMARY
PATENT APPLICATION: US/10/821,689A

DATE: 10/22/2004
TIME: 11:59:17

Input Set : A:\-31-1.app
Output Set: N:\CRF4\10222004\J821689A.raw

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:5; Xaa Pos. 11 ✓
Seq#:6; N Pos. 1 ✓
Seq#:10; N Pos. 1,26,27,28,29,30 ✓
Seq#:11; N Pos. 1,2,3,4,5 ✓
Seq#:12; N Pos. 1,2,3,4,5 ✓
Seq#:13; N Pos. 1,26,27,28,29,30 ✓
Seq#:14; N Pos. 1,2,3,4,5,55,56,57,58,59 ✓

VERIFICATION SUMMARY

DATE: 10/22/2004

PATENT APPLICATION: US/10/821,689A

TIME: 11:59:17

Input Set : A:\-31-1.app

Output Set: N:\CRF4\10222004\J821689A.raw

L:94 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5 after pos.:0
L:116 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6 after pos.:0
L:178 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:10 after pos.:0
L:196 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:11 after pos.:0
L:215 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:12 after pos.:0
L:239 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:13 after pos.:0
L:257 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:14 after pos.:0